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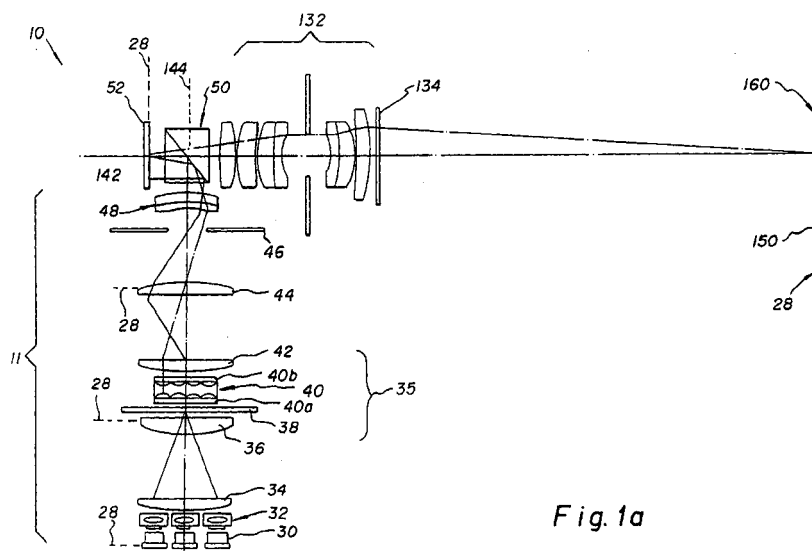
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(54) **A method for improving exposure resolution using multiple exposures**

(57) A method for improving exposure resolution that comprises several steps. A gray scale content of a high resolution image is analyzed and a determination is made of a media plane exposure resolution requirement. Exposure time and an exposure intensity is determined for each of the low resolution intermediate images. A number of low resolution intermediate images

(332) are required to provide the media plane exposure resolution; and an exposure time and exposure intensity for each of the low resolution intermediate images is determined. An image content for each of the low resolution intermediate images is determined and each of the low resolution intermediate images is printed at the exposure time and the exposure intensity.



*Fig. 1a*



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# EUROPEAN SEARCH REPORT

Application Number  
EP 01 20 2016

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 003 071 A (EASTMAN KODAK CO) 24 May 2000 (2000-05-24)	7,8	H04N1/40
Y	* abstract; figures 1-13 *	1-7	
Y	----- US 5 844 663 A (HOLLEY J DAVID ET AL) 1 December 1998 (1998-12-01) * abstract; figure 4 *	1-7	
A	----- EP 0 640 488 A (TEXAS INSTRUMENTS INC) 1 March 1995 (1995-03-01) * abstract; figures 2,3 * * column 7, line 15 - line 36 * * column 8, line 3 - line 23 *	1	
A	----- US 5 621 453 A (FUJITA YASUNORI ET AL) 15 April 1997 (1997-04-15) * abstract; figure 1 *	1	
A	----- US 5 953 103 A (NAKAMURA HIROAKI) 14 September 1999 (1999-09-14) * abstract; figures 1,3,8 * * column 1, line 1 - column 2, line 28 *	1	
A	----- EP 0 321 143 A (AMERICAN TELEPHONE & TELEGRAPH) 21 June 1989 (1989-06-21) -----		<div>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</div> <div>H04N B41J</div>
The present search report has been drawn up for all claims			
Place of search Berlin		Date of completion of the search 18 August 2004	Examiner Kassow, H
<div>CATEGORY OF CITED DOCUMENTS</div> <div> X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document  T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  &amp; : member of the same patent family, corresponding document </div>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 20 2016

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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18-08-2004

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1003071	A	24-05-2000	US 6215547 B1	10-04-2001
			EP 1003071 A2	24-05-2000
			JP 2000272170 A	03-10-2000
-----				
US 5844663	A	01-12-1998	WO 9811465 A1	19-03-1998
			US 6292251 B1	18-09-2001
-----				
EP 0640488	A	01-03-1995	US 5459492 A	17-10-1995
			DE 69417973 D1	27-05-1999
			DE 69417973 T2	07-10-1999
			DE 69431078 D1	29-08-2002
			DE 69431078 T2	30-01-2003
			EP 0640488 A2	01-03-1995
			EP 0875386 A1	04-11-1998
			JP 7232458 A	05-09-1995
-----				
US 5621453	A	15-04-1997	JP 7089128 A	04-04-1995
-----				
US 5953103	A	14-09-1999	JP 9314910 A	09-12-1997
-----				
EP 0321143	A	21-06-1989	US 4816846 A	28-03-1989
			CA 1319734 C	29-06-1993
			DE 3855650 D1	12-12-1996
			DE 3855650 T2	28-05-1997
			EP 0321143 A2	21-06-1989
			JP 2002045 A	08-01-1990
-----				

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82